

TABLE 8 Environmental characteristics of IDF subzones and variants in the Cariboo Forest Region

	IDF _{xw}	IDF _{xm}	IDF _{dk1}	IDF _{dk3}	IDF _{dk4}	IDF _{dw}	IDF _{mw}
Area (km ²)	362	2373	20	8953	3994	1009	147
Elevation (m)	600–1000	800–1200	800–1350	750–1200	1050– 1350	1050– 1400	760–900
Climate							
Precipitation (mm)	no data						
Mean annual		392	386	433	355	412	494
Mean summer		203	191	207	171	134	195
Mean winter		190	195	226	213	278	300
Mean annual snowfall (cm)		145	116	231	138	142	153
Temperature (°C)							
Mean annual	3.5	4.0	5.4	3.3	2.8	3.9	7.2
Mean warmest month	15.4	16.0	17.3	14.7	13.6	14.0	18.8
Mean coldest month	-10.2	-11.0	-10.2	-10.3	-10.3	-8.5	-5.4
Frost-free days		163	180	151	122	148	211
Soils							
Zonal soils ^a	O.G.L.	O.G.L.	O.G.L.	O.G.L.	O.G.L.	Br.G.L.	Br.G.L.
Zonal humus form ^b	HR	HR	HR	HR	HR	HR	HR

^aO.G.L. = Orthic Gray Luvisol; Br.G.L. = Brunisolic Gray Luvisol^bHR = HemiMor

Three biogeoclimatic variants of the IDFdk subzone occur in the Cariboo Forest Region.

The IDFdk1 Variant is centred in the Kamloops Forest Region (Lloyd *et al.* 1990) and includes only a very small area (20 km²) within the Cariboo Forest Region. It is very similar to the IDFdk3 except that it tends to have fewer herbaceous species and less kinnikinnick, and the Douglas-fir regeneration is less patchy.

The IDFdk3 Variant is the most extensive variant (8953 km²) of the IDFdk Subzone in the Cariboo Forest Region. It includes a broad area of the level to gently rolling Fraser Plateau east of the Fraser River valley, from the southeastern limits of the Region northwestward to about Williams Lake. At its lower elevations, the IDFdk3 borders the IDFxm, while at higher elevations it is replaced by the cold, dry climates of the SBPS and MS zones. At its eastern limits, where precipitation increases, the IDFdk3 borders the spruce climax forests of the SBSdw and SBPSmk. The climate of the IDFdk3 is similar to that of the IDFdk1 but is more moist and warmer than that of the IDFdk4. Compared to the IDFdk4, the IDFdk3 has a greater cover of mosses and twinflower and a smaller cover of lichens and kinnikinnick.

The IDFdk4 Variant lies on the gently rolling plateau bordering the valleys of the Chilcotin and Chilanko rivers. It extends from the upper slopes of these river valleys (about 950 m) across the gently rising plateau to about 1150 or 1200 m where it borders the SBPSxc. The IDFdk4 is the coldest biogeoclimatic unit of the IDF Zone in British Columbia and is climatically transitional from the IDF to the cold, dry SBPS Zone. Cold air accumulation areas in the IDFdk4 include lodgepole pine forests that are similar to those on zonal sites in the SBPSxc.

IDFdw Subzone The IDFdw is a relatively small subzone (1009 km²) that occurs only in the Cariboo Forest Region, in the valleys of the Coast Mountains. It occurs primarily in the valleys of Chilko and Tatlayoko lakes and Mosley (West Branch) Creek. Due to the influence of coastal air masses, the IDFdw has a warm, moist climate relative to most other parts of the IDF Zone in the Region. The IDFdw occurs

IDFdk1
INTERIOR DOUGLAS-FIR
DRY COOL SUBZONE
THOMPSON VARIANT

The IDFdk1 occurs primarily on the Thompson Plateau in the Kamloops Forest Region. It has a very minor area (approximately 20 km²) within the Cariboo Forest Region, southeast of Hihium Lake. In this area it occurs on plateau landscapes above the incised Deadman River valley, from approximately 1100 to 1300 m elevation.

Distinguishing Adjacent Units from the IDFdk1

The **IDFdk3** occurs primarily on the Fraser Plateau and replaces the IDFdk1 north of Tobacco Creek. The **MSxk** occurs at higher elevations (>1350 m) in the Hihium Lake area, while the **IDF_{xw}** occurs at lower elevations in the Deadman River valley.

In the **IDFdk3**, zonal sites have:

- only minor differences with the IDFdk1;
- dwarf blueberry;
- often more abundant kinnikinnick;
- typically more Douglas-fir regeneration in mature stands.

In the **MSxk**, zonal sites have:

- little or no Douglas-fir;
- hybrid white spruce regeneration;
- grouseberry, black huckleberry, and bunchberry.

In the **IDF_{xw}**, zonal sites have:

- no lodgepole pine or twinflower;
- ponderosa pine and bluebunch wheatgrass.

Site Units of the IDFdk1

A site classification has been developed for the IDFdk1 in the Kamloops Forest Region (Lloyd *et al.* 1990) and is expected to apply to the IDFdk1 in the Cariboo Forest Region. Refer to Lloyd *et al.* (1990) for a description of site units.



Twinflower
Linnaea borealis



Kinnikinnick
Arctostaphylos uva-ursi

TABLE 5.2.1 Distribution of Fen Site Associations by biogeoclimatic zone

	BG PP	BWBS SWB	ESSF	ICH	IDF	MS	SBPS SBS	CDF	CWH	MH
Wf01 Water sedge – Beaked sedge		xx	x	xx	xxx	xxx	xxx		x ⁱ	
Wf02 Scrub birch – Water sedge		xxx	x	xx	xx	xx	xx			
Wf03 Water sedge – Peat-moss			xx				x			
Wf04 Barclay's willow – Water sedge – Glow mosses		x	xxx			x	x			
Wf05 Slender sedge – Common hook-moss		x		xx	xx	xx	xx			
Wf06 Slender sedge – Buckbean		x		x	x		x			
Wf07 Scrub birch – Buckbean – Shore sedge		x		x	x		x			
Wf08 Shore sedge – Buckbean – Hook-moss		x	x		x	x	x			
Wf09 Few-flowered spike-rush – Hook-moss			x			x	x			
Wf10 Hudson Bay clubrush – Red hook-moss							x			
Wf11 Tufted clubrush – Star moss		x	x	x		x	x			
Wf12 Narrow-leaved cotton-grass – Marsh-marigold			xxx							
Wf13 Narrow-leaved cotton-grass – Shore sedge			xx			x				
Wf50 Narrow-leaved cotton-grass – Peat-moss									x	xxx
Wf51 Sitka sedge – Peat-moss				x				xx	xx	
Wf52 Sweet gale – Sitka sedge								xx	xx ^s	
Wf53 Slender sedge – White beak-rush								x	xx ^s	

x = incidental; < 5% of wetlands

i = inland areas only

xx = minor; 5–25% of wetlands

s = southern subzones only

xxx = major; >25% of wetlands

TABLE 5.2.2 Fen Species Importance Table

Species		WF01	WF02	WF03	WF04	WF05	WF06	WF07	WF08
Shrubs	<i>Betula nana</i>								
	<i>Salix barclayi</i>								
	<i>Salix pedicellaris</i>								
	<i>Spiraea douglasii</i>								
	<i>Myrica gale</i>								
Herbs and Dwarf Shrubs	<i>Carex utriculata</i>								
	<i>Carex aquatilis</i>								
Shrubs	<i>Comarum palustre</i>								
	<i>Calamagrostis canadensis</i>								
Shrubs	<i>Carex lasiocarpa</i>								
	<i>Menyanthes trifoliata</i>								
Shrubs	<i>Carex limosa</i>								
	<i>Carex chordorrhiza</i>								
Shrubs	<i>Eleocharis quinqueflora</i>								
	<i>Trichophorum alpinum</i>								
Shrubs	<i>Trichophorum cespitosum</i>								
	<i>Eriophorum angustifolium</i>								
Shrubs	<i>Caltha leptosepala</i>								
	<i>Carex anthoxanthea</i>								
Shrubs	<i>Equisetum fluviatile</i>								
	<i>Carex magellanica</i>								
Shrubs	<i>Carex sitchensis</i>								
	<i>Rhynchospora alba</i>								
Shrubs	<i>Carex livida</i>								
	<i>Eriophorum chamissonis</i>								
Shrubs	<i>Vahlodea atropurpurea</i>								
	<i>Drosera anglica</i>								
Shrubs	<i>Hypericum anagalloides</i>								
	<i>Triantha glutinosa</i>								
Shrubs	<i>Schoenoplectus tabernaemontani</i>								
	<i>Fauria crista-galli</i>								
Shrubs	<i>Senecio triangularis</i>								
	<i>Andromeda polifolia</i>								
Shrubs	<i>Kalmia microphylla</i>								
	<i>Oxycoccus oxycoccus</i>								
Shrubs	<i>Triglochin maritima</i>								
	<i>Drosera rotundifolia</i>								
Shrubs	<i>Leptarrhena pyrolifolia</i>								
	<i>Platanthera dilatata</i>								
Shrubs	<i>Sanguisorba canadensis</i>								
	<i>Utricularia intermedia</i>								
Shrubs	<i>Viola palustris</i>								
	<i>Sphagnum Group I</i>								
Lichens and Mosses	<i>Aulaconnium palustre</i>								
	<i>Drepanocladus spp.</i>								
Lichens and Mosses	<i>Sphagnum Group II</i>								
	<i>Tomentypnum nitens</i>								
Lichens and Mosses	<i>Philonotis fontana</i>								
	<i>Calliergon stramineum</i>								
Lichens and Mosses	<i>Scorpidium spp.</i>								
	<i>Campyllum stellatum</i>								
Lichens and Mosses	<i>Warnstorfia spp.</i>								
	<i>Meesia triquetra</i>								

Carex lasiocarpa – *Drepanocladus aduncus*

General Description

Slender sedge – Common hook-moss fens are common throughout the Interior at elevations below 1400 m. These fens occur on peat flats surrounding small lakes and ponds or in infilled palustrine basins. Prolonged shallow surface flooding and continual surface peat saturation are typical.



Carex lasiocarpa and *Drepanocladus aduncus* are constant dominants. Other large water sedges, such as *C. aquatilis* and *C. utriculata*, are also common. There can be a very sparse shrub cover of *Salix pedicellaris*, *S. candida*, or *Betula nana*. The moss layer is usually well developed but is occasionally absent. Hook-

mosses usually dominate with occasional inclusions of other brown mosses.

Deep peat deposits are common but some sites may occur on thin organic veneers. Mesisols are the most common soil type but Humisols and Fibrisols also occur.

Characteristic Vegetation

- Tree layer (0 - 0 - 0)
- Shrub layer (0 - 3 - 10)
- Herb layer (13 - 60 - 100)
- Carex aquatilis*, *C. lasiocarpa*, *C. utriculata*
- Moss layer (0 - 55 - 100)
- Drepanocladus aduncus*

Comments

Some Wf05 sites are marsh-like with deep flooding, low diversity, and virtually no moss layer. The related Wf06 occurs on floating mats with a more equitable water regime and hummock/hollow topography. Slender-sedge fens (Wf05, Wf06) occur in locations similar to the Wf01 but seem to represent sites with longer surface saturation and more basic soil water. Similar sites in coastal areas are described by the Wf53.

Wetland Edatopic Grid

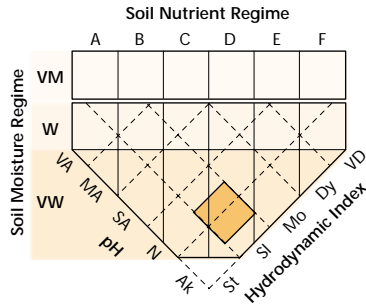


TABLE 5.4.1 Distribution of Swamp Site Associations by biogeoclimatic zone

	BG PP	BWBS SWB	ESSF	ICH	IDF	MS	SBPS SBS	CDF	CWH	MH
Ws01 Mountain alder – Skunk cabbage – Lady fern				XX			XX ^w			
Ws02 Mountain alder – Pink spirea – Sitka sedge		X	X	XX	X	X	X ^w		X	
Ws03 Bebb's willow – Bluejoint	X	XX			XX	X	XX			
Ws04 Drummond's willow – Beaked sedge				X	X	X	XX			
Ws05 MacCalla's willow – Beaked sedge					X		X			
Ws06 Sitka willow – Sitka sedge				XX			X ^w			
Ws07 Spruce – Common horsetail – Leafy moss		XX	X	XX	XX	XX	XXX			
Ws08 Subalpine fir – Sitka valerian – Common horsetail			XX							
Ws09 Black spruce – Skunk cabbage – Peat-moss				XX			X ^w			
Ws10 Western redcedar – Spruce – Skunk cabbage				XX						
Ws11 Spruce – Subalpine fir – Skunk cabbage							X ^w			
Ws50 Pink spirea – Sitka sedge				X			X ^w	XXX	XX	
Ws51 Sitka willow – Pacific willow – Skunk cabbage				X				X	X	
Ws52 Red alder – Skunk cabbage								XX	XX	
Ws53 Western redcedar – Sword fern – Skunk cabbage								X	X ^x	
Ws54 Western redcedar – Western hemlock – Skunk cabbage								X	XX	
Ws55 Yellow-cedar – Mountain hemlock – Skunk cabbage										XX

x = incidental; < 5% of wetlands

w = wet subzones only

xx = minor; 5–25% of wetlands

x = very dry subzones only

xxx = major; >25% of wetlands

TABLE 5.4.2 Swamp Species Importance Table

Species		Ws03	Ws04	Ws05	Ws02	Ws06	Ws07	Ws08	Ws01
Trees	<i>Picea X</i>								
	<i>Picea mariana</i>								
	<i>Abies lasiocarpa</i>								
	<i>Tsuga heterophylla</i>								
	<i>Thuja plicata</i>								
	<i>Picea sitchensis</i>								
	<i>Alnus rubra</i>								
	<i>Acer macrophyllum</i>								
	<i>Chamaecyparis nootkatensis</i>								
	<i>Tsuga mertensiana</i>								
	<i>Abies amabilis</i>								
Shrubs	<i>Salix bebbiana</i>								
	<i>Salix drummondiana</i>								
	<i>Salix maccalliana</i>								
	<i>Alnus incana</i>								
	<i>Lonicera involucrata</i>								
	<i>Spiraea douglasii</i>								
	<i>Cornus stolonifera</i>								
	<i>Vaccinium alaskaense/ovalifolium</i>								
	<i>Salix sitchensis</i>								
	<i>Salix lucida</i>								
	<i>Rubus spectabilis</i>								
	<i>Sambucus racemosa</i>								
	<i>Gaultheria shallon</i>								
	<i>Ribes bracteosum</i>								
<i>Elliottia pyroliflorus</i>									
Herbs and Dwarf Shrubs	<i>Calamagrostis canadensis</i>								
	<i>Carex aquatilis/sitchensis</i>								
	<i>Carex utriculata</i>								
	<i>Gymnocarpium dryopteris</i>								
	<i>Valeriana sitchensis</i>								
	<i>Scirpus microcarpus</i>								
	<i>Equisetum arvense</i>								
	<i>Lysichiton americanus</i>								
	<i>Athyrium filix-femina</i>								
	<i>Tiarella trifoliata</i>								
	<i>Streptopus lanceolatus</i>								
	<i>Maianthemum dilatatum</i>								
	<i>Oenanthe sarmentosa</i>								
	<i>Polystichum munitum</i>								
	<i>Equisetum telmateia</i>								
	<i>Blechnum spicant</i>								
	<i>Veratrum viride</i>								
	<i>Fauria crista-galli</i>								
Mosses and Lichens	<i>Drepanocladus spp.</i>								
	<i>Mnium spp.</i>								
	<i>Aulacomnium palustre</i>								
	<i>Sphagnum spp.</i>								
	<i>Hylocomium splendens</i>								
	<i>Pleurozium schreberi</i>								
	<i>Eurhynchium praelongum</i>								
	<i>Rhytidiadelphus loreus</i>								

Salix maccalliana – *Carex utriculata*

General Description

MacCalla's willow – Beaked sedge swamps/fens occur in scattered locations in drier climates of the Central and Sub-Boreal Interior in basins, hollows, and streamside areas that are shallowly flooded in the early season by slowly flowing waters.



Sites often have complex microtopography with tall willows rooting on elevated hummocks, and with depressions with standing water.

Tall *Salix maccalliana* dominates these sites but a diversity of other shrubs is common. *Carex utriculata* or *C. aquatilis* are usually dominant in the understorey but because of the pronounced microtopography a diversity of species often occurs. The moss layer is often moderately developed.

Soils are variable, ranging from deep mesic peat to thin layers of humic muck. Peat accumulations from 20 to 400 cm with well-humified surface tiers are typical.



Characteristic Vegetation

- Tree layer** (0 - 1 - 2)
- Shrub layer** (25 - 60 - 85)
Betula nana, *Salix glauca*, *S. maccalliana*
- Herb layer** (13 - 54 - 95)
Calamagrostis canadensis, *Carex aquatilis*,
C. utriculata
- Moss layer** (0 - 40 - 100)
Aulacomnium palustre, *Drepanocladus* spp.,
Mnium spp.

Comments

Pronounced lateral water flow in Ws05 sites allow the robust growth of *Salix maccalliana* on peaty soils.

Sites occasionally occur on deep deposits of sedge peat with a humic surface tier, suggesting that these sites have developed on hydrologically modified fens.

Sites with more active flooding are occupied by the Ws04.

Wetland Edatopic Grid

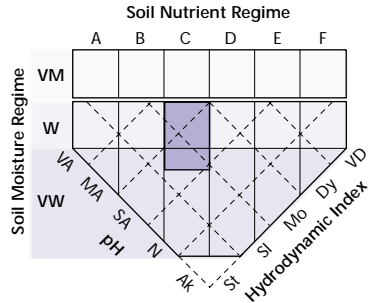


TABLE 5.3.1 Distribution of Marsh Site Associations by biogeoclimatic zone

	BG PP	BWBS SWB	ESSF	ICH	IDF	MS	SBPS SBS	CDF	CWH	MH
Wm01 Beaked sedge – Water sedge	x	xx	x	xxx	xxx	xx	xx		x	
Wm02 Swamp horsetail – Beaked sedge		x		x	x	x	xx			
Wm03 Awned sedge	x				x					
Wm04 Common spike-rush	x	x		xx	x	x	xx		x	
Wm05 Cattail	xxx	x		xx	xx	x	xx	xx	x ^s	
Wm06 Great bulrush	xxx	x		x	xx	xx	x	x	x	
Wm07 Baltic rush	x				xx					
Wm50 Sitka sedge – Hemlock-parsley								xx	xx	
Wm51 Three-way sedge				x				x	x	

x = incidental; < 5% of wetlands

xx = minor; 5–25% of wetlands

xxx = major; >25% of wetlands

s = southern subzones only

TABLE 5.3.2 Marsh Species Importance Table

Species		Wm01	Wm02	Wm03	Wm04	Wm05
Herbs and Dwarf Shrubs	<i>Carex utriculata</i>					
	<i>Carex aquatilis</i>					
	<i>Equisetum fluviatile</i>					
	<i>Comarum palustre</i>					
	<i>Sium suave</i>					
	<i>Carex exsiccata</i>					
	<i>Carex atherodes</i>					
	<i>Polygonum amphibium</i>					
	<i>Eleocharis palustris</i>					
	<i>Potamogeton richardsonii</i>					
	<i>Typha latifolia</i>					
	<i>Schoenoplectus acutus</i>					
	<i>Menyanthes trifoliata</i>					
	<i>Utricularia macrorhiza</i>					
	<i>Juncus balticus</i>					
	<i>Hordeum jubatum</i>					
	<i>Potentilla anserina</i>					
	<i>Calamagrostis canadensis</i>					
	<i>Cicuta douglasii</i>					
	<i>Lysichiton americanus</i>					
	<i>Oenanthe sarmentosa</i>					
	<i>Galium trifidum</i>					
	<i>Spiraea douglasii</i>					
	<i>Carex sitchensis</i>					
	<i>Nuphar lutea</i> ssp. <i>polysepala</i>					
	<i>Dulichium arundinaceum</i>					
Mosses	<i>Drepanocladus</i> spp.					
	<i>Wamstorfia</i> spp.					

Carex utriculata – *Carex aquatilis*

General Description

Beaked sedge – Water sedge marshes constitute the most common and widespread Marsh Site Association in the province. The **Wm01** occurs in all subzones from low to sub-alpine elevations on sites that are inundated by shallow, low-energy floodwaters and that experience some late-season drawdown. These marshes are found in a wide variety of landscape positions including flooded beaver ponds, lake margins, floodplains, and palustrine basins.



Species diversity is low and plant cover is strongly dominated by *Carex utriculata* and *C. aquatilis* with scattered forbs, aquatics, and mosses. On sites experiencing significant surface drying, species diversity increases and sites become more meadow-like. Species such as *Calamagrostis canadensis*, *Geum macrophyllum*, or *Deschampsia cespitosa* can become prominent.

The **Wm01** occurs over a wide range of site conditions on mineral substrates with thin peat veneers. Common soil types include Gleysols and Terric Humisols.

Characteristic Vegetation

- Tree layer (0 - 0 - 0)
- Shrub layer (0 - 0 - 5)
- Herb layer (13 - 80 - 100)
- Carex aquatilis*, *C. utriculata*
- Moss layer (0 - 5 - 100)

Comments

The **Wf01** and **Wm01** have similar plant communities, but, because these units are species-poor and the two dominant sedge species have a wide ecological amplitude, the plant community poorly differentiates between sites on peat (**Wf01**) and those on mineral soil (**Wm01**). In general, the **Wm01** is more deeply flooded, has more dynamic hydrology, and has a higher cover of *C. utriculata*.

The **Wm02** is another similar community that occurs on more hydrologically dynamic locations such as lake margins or floodplains. In cooler climates the **Wm01** frequently develops into **Wf01** on sites with less dynamic hydrology.

Some **Wm01** sites have scattered tall shrubs; those sites supporting > 10% shrub cover are described by Swamp Site Associations (Section 5.4).

Wetland Edatopic Grid

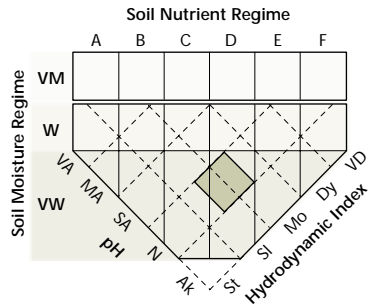


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Wf01 Water sedge – Beaked sedge		xx	x	xx	xxx	xxx	xxx		x ⁱ	
Wf02 Scrub birch – Water sedge		xxx	x	xx	xx	xx	xx			
Wf03 Water sedge – Peat-moss			xx				x			
Wf04 Barclay's willow – Water sedge – Glow mosses		x	xxx			x	x			
Wf05 Slender sedge – Common hook-moss		x		xx	xx	xx	xx			
Wf06 Slender sedge – Buckbean		x		x	x		x			
Wf07 Scrub birch – Buckbean – Shore sedge		x		x	x		x			
Wf08 Shore sedge – Buckbean – Hook-moss		x	x		x	x	x			
Wf09 Few-flowered spike-rush – Hook-moss			x			x	x			
Wf10 Hudson Bay clubrush – Red hook-moss							x			
Wf11 Tufted clubrush – Star moss		x	x	x		x	x			
Wf12 Narrow-leaved cotton-grass – Marsh-marigold			xxx							
Wf13 Narrow-leaved cotton-grass – Shore sedge			xx			x				
Wf50 Narrow-leaved cotton-grass – Peat-moss									x	xxx
Wf51 Sitka sedge – Peat-moss				x				xx	xx	
Wf52 Sweet gale – Sitka sedge								xx	xx ^s	
Wf53 Slender sedge – White beak-rush								x	xx ^s	

x = incidental; < 5% of wetlands

i = inland areas only

xx = minor; 5–25% of wetlands

s = southern subzones only

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TABLE 5.2.2 Fen Species Importance Table

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	<i>Salix barclayi</i>								
	<i>Salix pedicellaris</i>								
	<i>Spiraea douglasii</i>								
	<i>Myrica gale</i>								
Herbs and Dwarf Shrubs	<i>Carex utriculata</i>								
	<i>Carex aquatilis</i>								
Shrubs	<i>Comarum palustre</i>								
	<i>Calamagrostis canadensis</i>								
Shrubs	<i>Carex lasiocarpa</i>								
	<i>Menyanthes trifoliata</i>								
Shrubs	<i>Carex limosa</i>								
	<i>Carex chordorrhiza</i>								
Shrubs	<i>Eleocharis quinqueflora</i>								
	<i>Trichophorum alpinum</i>								
Shrubs	<i>Trichophorum cespitosum</i>								
	<i>Eriophorum angustifolium</i>								
Shrubs	<i>Caltha leptosepala</i>								
	<i>Carex anthoxanthea</i>								
Shrubs	<i>Equisetum fluviatile</i>								
	<i>Carex magellanica</i>								
Shrubs	<i>Carex sitchensis</i>								
	<i>Rhynchospora alba</i>								
Shrubs	<i>Carex livida</i>								
	<i>Eriophorum chamissonis</i>								
Shrubs	<i>Vahlodea atropurpurea</i>								
	<i>Drosera anglica</i>								
Shrubs	<i>Hypericum anagalloides</i>								
	<i>Triantha glutinosa</i>								
Shrubs	<i>Schoenoplectus tabernaemontani</i>								
	<i>Fauria crista-galli</i>								
Shrubs	<i>Senecio triangularis</i>								
	<i>Andromeda polifolia</i>								
Shrubs	<i>Kalmia microphylla</i>								
	<i>Oxycoccus oxycoccus</i>								
Shrubs	<i>Triglochin maritima</i>								
	<i>Drosera rotundifolia</i>								
Shrubs	<i>Leptarrhena pyrolifolia</i>								
	<i>Platanthera dilatata</i>								
Shrubs	<i>Sanguisorba canadensis</i>								
	<i>Utricularia intermedia</i>								
Shrubs	<i>Viola palustris</i>								
	<i>Sphagnum Group I</i>								
Lichens and Mosses	<i>Aulaacomnium palustre</i>								
	<i>Drepanocladus spp.</i>								
Lichens and Mosses	<i>Sphagnum Group II</i>								
	<i>Tomentypnum nitens</i>								
Lichens and Mosses	<i>Philonotis fontana</i>								
	<i>Calliergon stramineum</i>								
Lichens and Mosses	<i>Scorpidium spp.</i>								
	<i>Campyllum stellatum</i>								
Lichens and Mosses	<i>Warnstorfia spp.</i>								
	<i>Meesia triquetra</i>								

Betula nana – *Carex aquatilis*

General Description

The Scrub birch – Water sedge Fen Site Association is one of the most common peatland Site Associations throughout the Interior and is absent only from PP/BG and wet ESSF subzones. It is frequently a major component of large peatlands where there is some surfactable fluctuation and the surface becomes aerated by mid-season. These sites are often hummocked, with shrubs rooting on elevated microsites.

Betula nana and *Carex aquatilis* are the characteristic species but *Salix pedicellaris* and *Carex utriculata* dominate on wetter sites. The moss layer is variable and can be diverse, absent, or dominated by *Tomentypnum nitens*, *Sphagnum*, or *Drepanocladus*. Some drier sites will have scattered, stunted trees (spruce or black spruce most commonly).



Common soil types are terric and typic Mesisols and Fibrisols. Peat depths are frequently between 1 and 2 m but deep sedge-derived peat to 4 m occurs; this Site Association can occasionally occur on thin organic veneers.

Characteristic Vegetation

Tree layer (0 - 0 - 10)

Shrub layer (10 - 35 - 100)

Betula nana, *Salix pedicellaris*

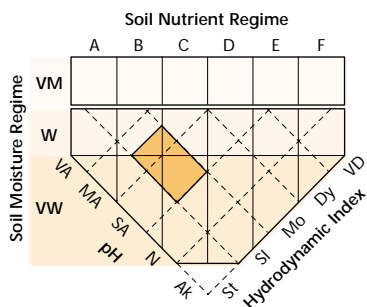
Herb layer (5 - 60 - 100)

Carex aquatilis, *C. utriculata*,
Comarum palustre

Moss layer (0 - 70 - 100)

Aulacomnium palustre, *Drepanocladus aduncus*, *Sphagnum* Group I,
Tomentypnum nitens

Wetland Edatopic Grid



Comments

The Wf02 Site Association often occurs around the periphery of the wetter Wf01 or adjacent to the drier Wb05. These three Site Associations may represent a sequence of long-term peatland succession. Many sites have a moss layer with rich and poor site indicators, suggesting that they are in transition from fen to bog conditions.

The Wf02 is one of the most common Interior peatland community types at low to subalpine elevations. It is probably only absent from the AT, BG, and PP zones. In coastal areas, similar sites are occupied by the Wf52.

TABLE 5.3.1 Distribution of Marsh Site Associations by biogeoclimatic zone

	BG PP	BWBS SWB	ESSF	ICH	IDF	MS	SBPS SBS	CDF	CWH	MH
Wm01 Beaked sedge – Water sedge	x	xx	x	xxx	xxx	xx	xx		x	
Wm02 Swamp horsetail – Beaked sedge		x		x	x	x	xx			
Wm03 Awned sedge	x				x					
Wm04 Common spike-rush	x	x		xx	x	x	xx		x	
Wm05 Cattail	xxx	x		xx	xx	x	xx	xx	x ^s	
Wm06 Great bulrush	xxx	x		x	xx	xx	x	x	x	
Wm07 Baltic rush	x				xx					
Wm50 Sitka sedge – Hemlock-parsley								xx	xx	
Wm51 Three-way sedge				x				x	x	

x = incidental; < 5% of wetlands

xx = minor; 5–25% of wetlands

xxx = major; >25% of wetlands

s = southern subzones only

TABLE 5.3.2 Marsh Species Importance Table

Species		Wm01	Wm02	Wm03	Wm04	Wm05
Herbs and Dwarf Shrubs	<i>Carex utriculata</i>					
	<i>Carex aquatilis</i>					
	<i>Equisetum fluviatile</i>					
	<i>Comarum palustre</i>					
	<i>Sium suave</i>					
	<i>Carex exsiccata</i>					
	<i>Carex atherodes</i>					
	<i>Polygonum amphibium</i>					
	<i>Eleocharis palustris</i>					
	<i>Potamogeton richardsonii</i>					
	<i>Typha latifolia</i>					
	<i>Schoenoplectus acutus</i>					
	<i>Menyanthes trifoliata</i>					
	<i>Utricularia macrorhiza</i>					
	<i>Juncus balticus</i>					
	<i>Hordeum jubatum</i>					
	<i>Potentilla anserina</i>					
	<i>Calamagrostis canadensis</i>					
	<i>Cicuta douglasii</i>					
	<i>Lysichiton americanus</i>					
	<i>Oenanthe sarmentosa</i>					
	<i>Galium trifidum</i>					
	<i>Spiraea douglasii</i>					
	<i>Carex sitchensis</i>					
	<i>Nuphar lutea</i> ssp. <i>polysepala</i>					
	<i>Dulichium arundinaceum</i>					
Mosses	<i>Drepanocladus</i> spp.					
	<i>Wamstorfia</i> spp.					

Wm06	Wm07	Wm50	Wm51	Common Name
				beaked sedge
				water sedge
				swamp horsetail
				marsh cinquefoil
				hemlock water-parsnip
				inflated sedge
				awned sedge
				water smartweed
				common spike-rush
				Richardson's pondweed
				common cattail
				great bulrush
				buckbean
				greater bladderwort
				Baltic rush
				foxtail barley
				common silverweed
				bluejoint
				Douglas' water-hemlock
				skunk cabbage
				Pacific water-parsley
				small bedstraw
				pink spirea
				Sitka sedge
				yellow pond-lily
				three-way sedge
				hook-mosses: intermediate
				hook-mosses: poor

